Cytokines

Human Recombinant Leptin

Leptin

Catalog #100-0932

2 mg

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Product Description

Leptin is a protein produced from the ob gene or lep gene, and acts as both a hormone involved in metabolic function as well as a proinflammatory cytokine by inducing Th1 immune responses (Dunn et al.; La Cava; Newman & Gonzalez-Perez). Leptin is a member of the gp130 family of cytokines and is known to be correlated with obesity (Dixit et al.; Dunn et al.). Leptin can both promote osteogenesis via osteoblast receptors and inhibit it through its actions on the hypothalamus (Figenschau et al.). It is a small, non-glycosylated protein with a highly conserved sequence between species. Leptin binds to the leptin receptor OB-R, which exists in six isoforms in humans and can activate various Janus kinase (JAK) and downstream pathways (Dunn et al.; Münzberg & Morrison; Newman & Gonzalez-Perez). For example, the binding of leptin to LepRb receptor activates JAK2, which leads to the phosphorylation of both JAK2 and the LepRb receptor, with three separate residues on the receptor triggering signaling pathways for SHP-2, STAT5, and STAT3 (Dunn et al.; Münzberg & Morrison). In addition to its effects on mature immune cells, other studies have suggested impacts on other cell types, with activities such as inducing cell proliferation and morphological differentiation in hematopoietic cell lines, chondrocytes, and hepatic cells (Figenschau et al.; Gainsford et al.; Santos-Alvarez et al.; Wang et al.).

Product Information

Alternative Names:	FLJ94114; LEP; LEPD protein; leptin (murine obesity homolog); leptin (obesity homolog, mouse); OB; Obese protein; Obese, mouse, homolog of; Obesity factor; OBOBS
Accession Number:	NP_000221.1 (Val22-Cys167) was expressed with an additional Met
Amino Acid Sequence:	MVPIQKVQDD TKTLIKTIVT RINDISHTQS VSSKQKVTGL DFIPGLHPIL TLSKMDQTLA VYQQILTSMP SRNVIQISND LENLRDLLHV LAFSKSCHLP WASGLETLDS LGGVLEASGY STEVVALSRL QGSLQDMLWQ LDLSPGC
Predicted Molecular Mass:	16 kDa
Species:	Human
Formulation:	Lyophilized from sterile PBS, pH 7.4. Trehalose (5% - 8%), mannitol, and 0.01% TWEEN® 80 are normally added as protectants before lyophilization.
Source:	*E. coli*

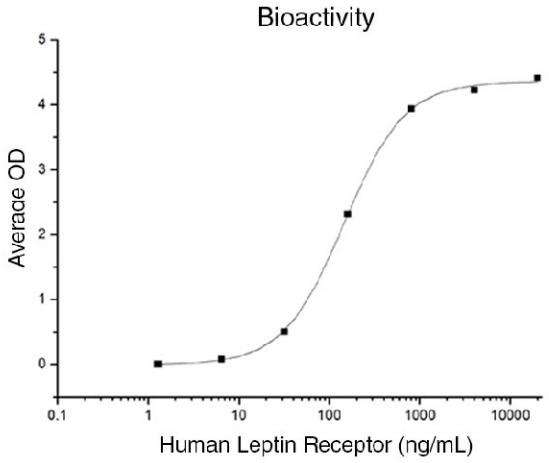
Specifications

Activity:	Binding ability was measured in a functional ELISA. Immobilized Human Recombinant Leptin at 2000 ng/mL can bind human leptin receptor (His & hFc tag) with a linear range of 70 - 420 ng/mL.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1.0 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



The binding activity of Human Recombinant Leptin was tested by functional ELISA with immobilized Human Recombinant Leptin at 2000 ng/mL. Immobilized Human Recombinant Leptin can bind human leptin receptor (His & hFc tag) with a linear range of 70 - 420 ng/mL.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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